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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/474,941	12/30/1999	ELIEZER ROSENGAUS	KLA1P001C1	2963

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EXAMINER

ROSENBERGIER, RICHARD A

ART UNIT

PAPER NUMBER

2877

DATE MAILED: 10/07/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/474,941

Applicant(s)

ROSENDAUS ET AL.

Examiner

Richard A Rosenberg

Art Unit

2877

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 59, 62-65 and 67-85 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 59, 62-65, 67, 68, 73-77, 81, 82 and 85 is/are allowed.
- 6) ☒ Claim(s) 69-71, 78-80, 83 and 84 is/are rejected.
- 7) ☒ Claim(s) 72 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s): _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s): _____ 6) ☐ Other:

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claim 71 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sato et al (US 5,766,360).

Sato et al a semiconductor manufacturing system comprising a wafer handling chamber (38) having a plurality of facets (see figure 2) which can contain a vacuum environment (column 5, lines 23-25). There are a plurality of processing tools (50, 51) attached to the facets of the wafer handling chamber. There is an inspection tool (58) attached to the wafer handling chamber; Sato states that the inspection chamber "performs various measurements and inspections" (column 6, line 41) which at least clearly suggests having a plurality of inspection sensors and metrology sensors in the inspection tool, otherwise the tool would not be able to perform "various measurements and inspections" as disclosed. It would have been obvious to measure any parameter of interest on the wafer using known measuring tools to do so; it is especially obvious to measure critical dimensions because they are critical, and thus it is of great importance that they be correct.

3. Claims 69, 70 and 78 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sato et al (US 5,766,360) in view of Sawatari et al (US 5,923,423).

Sato et al shows a semiconductor manufacturing system with a plurality of wafer processing tools attached to respective facets of a wafer handling chamber. It is known in the art that it is of importance to monitor the performance of processing tools and, using defect data, implement statistical process control; see Sawatari et al, column 1, lines 33-36. It would have been obvious to provide a plurality of inspection tools to generate the reports for the various processing tools because this would allow the selection and configuration of the inspection tools to be particularly appropriate for the individual processing by each tool and the possible defects that the individual tools can produce, and thus improve the reliability of the recognition of the defects and control of the processes. Sato et al at least suggests having available more than one inspection or measurement tool; see column 6, lines 40-42 of that reference.

4. Claims 79, 80, 83 and 84 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sato et al (US 5,766,360) and, for claims 83 and 84, Sawatari et al (US 5,923,423) as applied to claims 71 and 78 above, and further in view of Kuriyama et al (US 4,865,445).

Kuriyama et al shows that it is known to place a plurality of inspection and measurement sensors adjacent to each other such that each views a corresponding portion of a wafer being examined in order to allow the two to perform simultaneously. It would have been obvious to use this type of combined sensor in the inspections and measurements taught by Sato et al because, as taught by Kuriyama et al, there are recognized advantages such as reducing cost and reducing the time (Kuriyama et al, column 1, lines 65-66).

5. The art does not appear to teach or fairly suggest having a plurality of modular inspection systems of different types attached to one of the processing tools; the art shows attaching the inspection systems to the wafer handling chamber, not to the tools themselves. This claims 59 and 65 and claims 62-64, 67, 68, 75-77 and 85 dependent therefrom, are allowable.

The art does not appear to teach or suggest such a cluster system having a modular inspection tool including a plurality of interleaved inspection and metrology sensors. Thus claims 73 and 74, 81 and 82 dependent therefrom, are allowable. Claims 72, which also claims the inspection and metrology sensors being interleaves, is objected to as being dependent upon an unallowed parent claim but would be allowable if rewritten in independent form including all of the limitations of its parent claims.

Art Unit: 2877

6. Sun (US 5,940,175) and Moore (US 5,872,632) show cluster systems with measurement and inspection tools attached to the handling chamber.

7. Papers related to this application may be submitted to Group 2800 by facsimile transmission. The faxing of such papers must conform to the notice published in the Official Gazette, 1096 OG 30 (15 November 1989). The fax number is (703) 872-9306

Any inquiry concerning this communication or earlier communications from the examiner should be directed to R. A. Rosenberger whose telephone number is (703) 308-4804.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-0956.

R. A. Rosenberger
17 September 2003



Richard A. Rosenberger
Primary Examiner